# ATMOSPHERIC Environment

Part B: Urban Atmosphere

Volume 27B 1993

List of Contents and Author Index



## ATMOSPHERIC ENVIRONMENT

#### **EXECUTIVE EDITORS**

Dr P. Brimblecombe, Norwich, U.K. Dr M. Benarie, Grenoble, France Prof. R. D. Bornstein, San Jose, CA (with special responsibility for Urban Atmosphere) Dr A. S. Lefohn, Helena, MT Dr P. J. Lioy, Piscataway, NJ Dr H. B. Singh, Moffett Field, CA

ASSISTANT EDITOR
Dr J. F. Austin, Norwich, U.K.

FORMER EXECUTIVE EDITOR Dr D. J. Moore (1967–1989)

EDITOR EMERITUS
Dr J. P. Lodge Jr, Boulder, CO

# PART B: URBAN ATMOSPHERE

#### **EXECUTIVE EDITOR**

#### ASSOCIATE EDITOR

Prof. R. D. Bornstein, San Jose, CA Prof. T. Oke, Vancouver, Canada

#### **EDITORIAL ADVISORY BOARD**

Dr Y. R. Adebayo, Nairobi, Kenya (African Editor) Prof. P. Artaxo, São Paulo, Brazil

(South American Editor)
Dr M. E. Berlyand, St Petersburg, Russia

(East European Editor)
Dr W. F. Dabberdt, Boulder, CO
(North American Editor/PBL Meteorology)

Prof. B. Givoni, Los Angeles, CA
(North American Editor/Urban Planning)

Prof. Y. Goldreich, Ramat-Gan, Israel (Middle East Editor)

Prof. E. Jauregui, Mexico City, Mexico (North American Editor/Urban Climate) Dr M. J. Kerschgens, Köln, F.R.G.

(West European Editor)
Prof. T. J. Lyons, Murdock, Australia

Prof. T. Nishizawa, *Ibaraki*, *Japan* (Asian Editor/Urban Climate)

Dr W. Ott, Stanford, CA (North American Editor/Indoor Pollution) Prof. B. Padmanabhamurty, New Delhi, India (Indian Sub-Continent Editor)

Prof. S. Sani, Selangor, Malaysia (Southeast Asian Editor) Dr S. E. Schwartz, Upton, NY (North American Editor/Chemistry)

Dr P. Switzer, Stanford, CA
(North American Editor/Statistical
Methods)

Dr D. B. Turner, Dallas, TX (North American Editor/Dispersion Modeling) Dr H. Lleda, Fukuoka, Japan

Dr H. Ueda, Fukuoka, Japan (Asian Editor/Air Pollution)

#### Production Editor (Elsevier Science): Suzanne Fox

Publishing and Advertising Offices: Elsevier Science Ltd, Headington Hill Hall, Oxford OX3 0BW, U.K. Tel: (0865) 794141, Fax: (0865) 60285.

Subscription rates

(Australian Editor)

Annual Institutional Subscription Rates 1994: North, Central and South America, U.S.\$1297.00, Rest of World £1995.00. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice. Subscription enquiries from customers in North America should be sent to: Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A. and from the remainder of the world to: Elsevier Science Ltd, Headington Hill Hall, Oxford OX3 0BW, U.K. Subscription rates for Japan are available on request.

Part A published monthly plus additional issues in February, April, June, August, October and December. Part B published quarterly in March, June, September and December.

Whilst every effort is made by the Publishers and Editorial Board to see that no inaccurate or misleading data, opinion or statement appear in this Journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the sole responsibility of the contributor or advertiser concerned. Accordingly, the Publishers, the Editorial Board and Editors and their respective employees, officers and agents accept no responsibility or liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement.

Second class postage paid at RAHWAY, NJ, and additional mailing offices. Postmaster send address corrections to Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.

## CONTENTS OF VOLUME 27B

### Number 1

Hyoun-Young Lee	1	An application of NOAA AVHRR thermal data to the study of urban heat islands
R. H. Schulze	15	The 20-year history of the evolution of air pollution control legislation in the U.S.A.
R. D. Scheffe and R. E. Morris	23	A review of the development and application of the Urban Airshed Model
R. B. Wilson	41	Review of development and application of CRSTER and MPTER models
J. Pastuszka, S. Hławiczka and K. Willeke	59	Particulate pollution levels in Katowice, a highly industrialized Polish city
M. A. H. Eltayeb, C. F. Xhoffer, P. J. Van Espen, R. E. Van Grieken and W. Maenhaut	67	Sources and composition of aerosol from Khartoum, Sudan
C. Saiz-Jimenez	77	Deposition of airborne organic pollutants on historic buildings
N. Kumar, U. C. Kulshreshta, A. Saxena, K. M. Kumari and S. S. Srivastava	87	Effect of anthropogenic activity on formate and acetate levels in precipitation at four sites in Agra, India
I. G. McKendry	93	Ground-level ozone in Montreal, Canada
K. E. Grønskei, S. E. Walker and F. Gram	105	Evaluation of a model for hourly spatial concentration distributions
T. Gotoh	121	Relation between heat islands and NO <sub>2</sub> pollution in some Japanese cities
	Nu	mber 2
L. O. Myrup, C. E. McGinn and R. G. Flocchini	129	An analysis of microclimatic variation in a suburban environment
G. M. Mills	157	Simulation of the energy budget of an urban canyon—I. Model structure and sensitivity test
G. M. Mills and A. J. Arnfield	171	Simulation of the energy budget of an urban canyon—II. Comparison of model results with measurements
S. Sollinger, K. Levsen and G. Wünsch	183	Indoor air pollution by organic emissions from textile floor coverings. Climate chamber studies under dynamic conditions
W. G. Cobourn, K. L. Gauri, S. Tambe, S. Li and E. Saltik	19:	3 Laboratory measurements of sulfur dioxide deposition velocity on marble and dolomite stone surfaces
H. Sakugawa, I. R. Kaplan and L. S. Shepard	20:	Measurements of H <sub>2</sub> O <sub>2</sub> , aldehydes and organic acids in Los Angeles rainwater: their sources and deposition rates

**	-	
M. Boznar, M. Lesjak and P. Mlakar	221	A neural network-based method for short-term predictions of ambient SO <sub>2</sub> concentrations in highly polluted industrial areas of complex terrain
R. K. Stevens, R. J. Drago and Y. Mamane	231	A long path differential optical absorption spectrometer and EPA-approved fixed-point methods intercomparison
J. M. Lyons, C. Venkataraman, H. H. Main and S. K. Friedlander	237	Size distributions of trace metals in the Los Angeles atmosphere
M. Aceves and J. O. Grimalt	251	Large and small particle size screening of organic compounds in urban air
K. W. Nicholson and J. R. Branson	265	Lead concentrations in U.K. urban air
A Note R. M. Tripathi, S. C. Ashawa and R. N. Khandekar	269	Atmospheric deposition of Pb, Cd, Cu and Zn in Bombay, India
	Num	aber 3
Y. Qin and L. Y. Chan	275	Traffic source emission and street level air pollution in urban areas of Guangzhou, South China (P.R.C.)
Y. Qin and S. C. Kot	283	Dispersion of vehicular emission in street canyons, Guangzhou City, South China (P.R.C.)
B. Rappenglück, K. Kourtidis and P. Fabian	293	Measurements of ozone and peroxyacetyl nitrate (PAN) in Munich
A. Fornaro, P. C. Isolani and I. G. R. Gutz	307	Low-cost automated rain collector and its application to the study of wet only deposition in São Paulo (Brazil)
R. Tsitouridou and C. Samara	313	First results of acidic and alkaline constituents determination in air particulates of Thessaloniki, Greece
D. S. Lee	321	Spatial variability of urban precipitation chemistry and deposition: statistical associations between constituents and potential removal processes of precursor species
F. Guidobaldi and A. M. Mecchi	339	Corrosion of ancient marble monuments by rain: evaluation of pre-industrial recession rates by laboratory simulations
	Nu	mber 4
	i	Publisher's Notice

C. Pilinis, P. Kassomenos and G. Kallos	353	Modeling of photochemical pollution in Athens, Greece. Application of the RAMS- CALGRID modeling system
S. Jin and K. Demerjian	371	A photochemical box model for urban air quality study

Contents

v

H. C. Eerens, C. J. Sliggers and 389 The CAR model: the Dutch method to deter-K. D. van den Hout mine city street air quality M. S. El-Shobokshy and 401 Atmospheric turbidity and transmittance of Y. G. Al-Saedi solar radiation in Riyadh, Saudi Arabia Chih-Shan Li, Wen-Hai Lin 413 Characterization of outdoor submicron parand Fu-Tien Jenq ticles and selected combustion sources of indoor particles W. M. Cox and Shao-Hang Chu 425 Meteorologically adjusted ozone trends in urban areas: a probabilistic approach A. Alexopoulos, D. Assimacopoulos 435 Model for traffic emissions estimation and E. Mitsoulis I Volume Contents and Author Index to Volume 27B, 1993